concentration of the molecule in the sample can be determined. Further, the waveguide surface (corresponding to the base member surface) is evenly coated with binding partner such as avidin 58 to provide a first coating surface. The first reactant coating includes a first antibody 54 which is biotinylated. A second coating includes second antibody 64 which is biotinylated to bind with the avidin 58. The surface also contains a biotinylated reference material dye 60A bound to the avidin coating, such as fluorescein (column 7, lines 43 to 51). The signals propagate through the waveguide and reach detectors, and only intensity of signals for are detected as shown in Figs. 1, 2, and Figs. 1, 2, and Figs. 5A, 5B, 5C.

Therefore, Slovacek, et al. do not disclose that the substances on the surface of the base member (waveguide) are fixed on the predetermined positions associated with the chemical structure of the substance. Rather, in consideration of determining only the presence and concentration of the molecules in the sample, the substances are preferably fixed on a uniform, random or haphazard manner on the surface of the base member.

Further, with the apparatus of Slovacek et al, though the surface of the waveguide, i.e., base member is a reactant coating, the base member is not a long and slender shape such as a filament or a braid rolled around a carrier, and the substrates are not lined up along the longitudinal direction. Therefore, the apparatus of the present invention is distinct from that of Slovacek, et al. Owing to the distinction, with the present invention, fixed positions of substances for detection on a single base member can be easily and exactly detected by tracing the base member in longitudinal direction and specifying fixed positions of substances for detection, the chemical structure of the substances for detection can be easily and exactly specified, even if the substances or base member is densely arranged. Hence, various inspections or tests for investigating or studying chemical structure, characteristics, or presence of the substances for detection fixed on the base member, or binding partners or analyte that may be present in a test medium can be easily and exactly carried out.

Amended claim 2 recites a device for containing, reacting and measuring having: a transparent container having a liquid inlet/outlet and which is able to contain a base member with various substances for detection having predetermined chemical structures fixed at respective fixed positions which are arranged in a predetermined condition, and with each of the chemical structures associated with each of the fixed positions, a drawing and discharging section which is able to draw and discharge said liquid into and from the container section via said inlet/outlet,

and a measuring device which is able to receive light from the contained base member, transmitted through a transparent wall of the container section, external to said container section and in a condition associated with said fixed position.

The words, "transmitted through a transparent wall of the container section" in the above claim 2 is supported by the following:

Fig. 1(a), Fig. 2(c), Fig. 3(a)(c)(d), Fig. 4, Fig. 5, Fig. 6(b),

the description in the specification, on page 14, lines 12 to 14, "A scanning section (not shown in the figure) which is moved for scanning, is provided along the slender tube 11.",

the description on page 16, lines 8 to 12, "a measuring device 26 is a device which uses, for example, an optical fiber for irradiating excitation light and receiving the fluorescent, being a movable device which can be scanned in the vertical direction external to the large diameter section 32 of the pipette section 24, and rotated through 360 degrees around the large diameter section 32.",

the description on page 18, lines 7 to 9, "In step S5, the measuring device 26, measures from outside of the integrated for which washing is completed, by scanning the perimeter of the large diameter section 32 vertically and through 360 degrees therearound with the scanning section.", and

the description on page 19, lines 22 to 24, "This linear light receiving and irradiating section 50 is provided so as to be able to be turned through 360 degrees around the periphery of large diameter section 45 by means of scanning section (not shown in the figure).".

In contrast thereto, with the apparatus of Glass, immobilized on the surface of a fiber is a component of a complex formed in an immunochemical-type reaction. A fluorophore that can be excited into fluorescence by the excitation radiation is attached to another component of the complex. The fiber is coaxially mounted in cantilevered position within a length of tubing, so that the excitation radiation can be launched into the unsupported end of the fiber and the fluorescent radiation tunneling back into the fiber may be observed at the same fiber end (ABSTRACT). Further, the enclosure 24 is not necessarily transparent, as shown in Fig. 1 etc. or column 5, lines 25 to 31. Namely, fluorescent radiation in the tubing propagates through the fiber 22 per se, and is received and measured by fluori-meter 43, so that information for the

location of radiation is lost. Hence, the apparatus of the present invention is distinct from that of Glass, in that the apparatus receives or measures or detects the radiation transmitted through the transparent wall of the container section in a manner that the location of radiation can be specified. Owing to this distinction in construction, with the present invention, by detecting radiation transmitted through the transparent wall of the container section, fixed positions of substances for detection on a single base member can be easily and exactly specified, and the chemical structure of the substances for detection can be specified. Hence, various inspections or tests for investigating or studying chemical structure, characteristics, or presence of the substances for detection, or binding partners or analyte that may be present in a test medium can be easily and exactly carried out.

Dependent claims 3-10 further limit claim 2 in a patentable sense. For example, claims 3 and 5 distinguish over the apparatus of Erb, et al. which has a positioning means used for connecting an optical fiber to a receiver which is external to the enclosure, and is not used for scanning along the base member or relatively transferring a container which is external to the apparatus.

In view of the foregoing, all of the claims are now in condition for allowance and an early formal notice thereof is requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (AMENDED) An integrated carrier having: a base member of a long and slender shape [such as a filament, or a braid , or tape, with] having various substances for detection having predetermined chemical structures fixed thereto so as to be lined up along a longitudinal direction thereof with each of the chemical structures associated with their fixed positions in a predetermined condition, and a carrier with said base member rolled therearound with each of the fixed positions exposed outwards.

2. (AMENDED) A device for containing, reacting and measuring [having] , said device comprising:

a [transparent] container section having a transparent wall and a liquid inlet/outlet, [and which is able to contain]

a base member disposed in the container section and having [with] various substances for detection fixed thereto, the substances having predetermined chemical structures fixed at respective fixed positions relative to the base member which are arranged in a predetermined condition, and with each of the chemical structures associated with each of the fixed positions,

a drawing and discharging section which is [able] adapted to draw and discharge said liquid into and from the container section via said inlet/outlet, and

a measuring device which is able to receive light from the contained base member, transmitted through the transparent wall of the container section, external to said container section and in a condition associated with said fixed position.

5. (AMENDED) A device for containing, reacting and measuring according to claim 2, further [having] comprising a moving section which is capable of relatively moving said inlet/outlet and a processing area where externally provided containers or the like are mounted.

6. (AMENDED) A device for containing, reacting and measuring according to claim 2, further [having] comprising an identification section for performing identification of said target substance based on an identification pattern obtained by scanning with said measuring device an area containing all fixed positions of said base member which have been formed by combining labeled target substances with substances for detection.

7. (AMENDED) A device for containing, reacting and measuring according to claim 2, wherein said base member is formed in a long and slender shape [such as a filament shape, or a

braid shape, or a tape shape], and the substances for detection are lined up and fixed along a longitudinal direction thereof, [and in the case where said base member is contained in a linearly extended condition,] wherein said container section is a slender tube, and said base member is contained with the longitudinal direction thereof along the axial direction of the slender tube, wherein [and] the size and shape of the slender tube is determined based on the size and shape of the base member, and wherein said measuring device measures by scanning along the axial direction of said slender tube.

8. (AMENDED) A device for containing, reacting and measuring according to claim 2, wherein said base member is formed in a long and slender shape such as a filament shape, or a braid shape,[or a tape shape,] with various substances for detection having predetermined chemical structures lined up and fixed along the longitudinal direction, with each chemical structure associated with the fixed positions thereof, [and in the case where said base member forms an integrated carrier rolled on the surface of the carrier with the respective fixed positions exposed outward,] wherein said container section comprises a large diameter section for containing said integrated carrier and a small diameter section having an inlet/outlet at a tip end and capable of insertion into an external container, [and] wherein said drawing and discharging section draws and discharges said liquid into and from said large diameter section via said inlet/outlet, [and] wherein the size and shape of said container section is determined based on the size and shape of said integrated carrier, and wherein said measuring device receives light from the base member external to said large diameter section.

9. (AMENDED) A device for containing, reacting and measuring according to claim 3, wherein said light receiving section of said measuring device is provided inside a light shielding box, and said light shielding box has a box body and a cover provided so as to cover an opening of said box body, and has opening provided in said cover to allow said container section to pass therethrough in order to insert said container section into said box body, and further comprising closure means which covers said opening to form a closure space with said container section inserted into said box body.